

U.S. Patent Application Serial No. 10/510,619

Reply to Office Action of December 27, 2006

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**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application.

**Listing of Claims:**

1. (Original) Substantially pure desloratadine having an HPLC purity greater than 99.5%, and having an absorbance less than 0.15 Au at 420 nm for a 5%w/v solution in methanol, which does not show a peak for an impurity at a relative retention time in the range from about 0.85 to about 0.99 (relative to desloratadine appearing at a retention time of 25±5 minutes) which is greater than the discard limit set at less than 0.025% of total area, when tested according to an HPLC method performed using a Hypersil BDS C<sub>8</sub> column (15 cm x 4.6 mm, 5 µm particle size) with the following parameters:

Mobile phase: Buffer solution having a pH of about 3, methanol and acetonitrile in a volume ratio of 8:1:1.

Injection volume : 20µl

Flow rate : 1.5 ml/minute

Run time : 75 minutes

Discard limit : Set at less than 0.025% of total area

2. (Original) Substantially pure desloratadine as claimed in claim 1, wherein (a) total impurities are not more than 0.5%; and (b) no individual impurity is greater than 0.1%.

3. (Original) Substantially pure desloratadine as claimed in claim 2, wherein the total impurities are less than 0.3%.

4. (Currently Amended) ~~[[A s]]~~Substantially pure desloratadine of claim 1, 2 or 3 prepared by a process comprising acidic hydrolysis of a compound of formula 3, where R is selected from COR<sub>1</sub>, COOR<sub>1</sub>, wherein R<sub>1</sub> is selected from branched or linear alkyl containing 1

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to 6 carbon atoms, cycloalkyl, alkenyl, alkynyl, aryl, aralkyl and their substituted analogs; by the acidic hydrolysis comprising

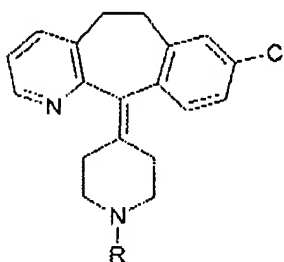
heating with a strong organic acid or a mineral acid for about 1 hour to about 24 hours,

adjustment of adjusting pH of the hydrolysed reaction mixture to a pH between the range of about 3 to about 5, optional treatment

optionally treating with an adsorbent, adjustment of

adjusting the pH of the reaction mixture to a pH of greater than about 9, and

isolation of isolating desloratadine[.].



Formula 3.

5. (Currently Amended) [[A]] The substantially pure desloratadine of claim 4 prepared by a process comprising acidic hydrolysis of a compound of formula 3, by heating to about 20° to 150°C in the presence of a strong acid with an acid at a temperature between the range of ambient to about 150°C.

6. (Currently Amended) [[A]] The substantially pure desloratadine of claim 4 prepared by a process further comprising recrystallization of recrystallizing desloratadine from a solvent system comprising a mixture of an alcohol and a hydrocarbon solvent.

7. (Currently Amended) [[A]] The substantially pure desloratadine of claim 6 wherein the alcohol is methanol and the hydrocarbon solvent is cyclohexane.

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8. (Currently Amended) A process for preparation of substantially pure desloratadine comprising acidic hydrolysis of a compound of formula 3, where R is selected from  $\text{COR}_1$ ,  $\text{COOR}_1$ , wherein  $\text{R}_1$  is selected from branched or linear alkyl containing 1 to 6 carbon atoms, cycloalkyl, alkenyl, alkynyl, aryl, aralkyl and their substituted analogs; ~~and their substituted analogs, by comprising~~

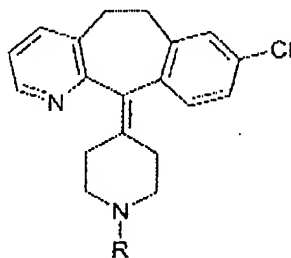
~~heating the compound of formula 3 in the presence of with a strong organic acid or a mineral acid for about 1 hour to about 24 hours, adjustment of~~

~~adjusting the pH of the hydrolysed reaction mixture to a pH between the range of about 3 to about 5,~~

~~optional treatment optionally treating the pH adjusted reaction mixture with an adsorbent, adjustment of~~

~~adjusting the pH of the reaction mixture to a pH of greater than about 9, and~~

~~isolation of isolating desloratadine[.]]~~



Formula 3.

9. (Currently Amended) ~~[[A]]~~ The process as claimed in claim 8 wherein R is  $\text{COOR}_1$  and  $\text{R}_1$  is ethyl and the ~~organic~~ acid is methanesulfonic acid.

10. (Currently Amended) ~~[[A]]~~ The process as claimed in claim 8 wherein R is  $\text{COOR}_1$  and  $\text{R}_1$  is ethyl and the ~~mineral~~ acid is sulphuric acid.

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11. (Currently Amended) ~~[[A]] The process as claimed in claim 8, comprising acidic hydrolysis of a compound of formula 3, by heating to about 20° to 150°C in the presence of a strong acid with an acid at a temperature between the range of ambient to about 150°C.~~

12. (Currently Amended) ~~[[A]] The process as claimed in claim 11, comprising acidic hydrolysis of a compound of formula 3, by heating with an acid at a temperature between the range of about to about 60°C to about 110°C in the presence of a strong acid.~~

13. (Currently amended) ~~[[A]] The process as claimed in claim 9, wherein the acidic hydrolysis is carried out by comprising heating with metanesulfonic-methanesulfonic acid for 5 to 15 hours at a temperature between the range of about 90°C to about 120°C.~~

14. (Currently Amended) ~~[[A]] The process as claimed in claim 10, wherein the acidic hydrolysis is carried out by comprising heating with sulphuric acid for 1 to 5 hours at a temperature between the range of about 90°C to about 120°C.~~

15. (Currently Amended) ~~[[A]] The process as claimed in claim 8, wherein adsorbent is selected from charcoal, neutral or alkaline alumina, silica or and fuller's earth.~~

16. (Currently Amended) ~~[[A]] The process as claimed in claim 8, comprising adjustment of adjusting the pH of the reaction mixture to a pH between the range of about 4 to about 5, treatment treating with charcoal, adjustment of adjusting the pH of the reaction mixture to a pH of about greater than about 9 and isolation of isolating desloratadine.~~

17. (Currently Amended) ~~[[A]] The process as claimed in claim 8, further comprising recrystallization of recrystallizing desloratadine from a solvent system comprising of two or more protic or aprotic solvents selected from water, alcohols, linear hydrocarbons, branched hydrocarbons, or cyclic hydrocarbons, aromatic hydrocarbons, ethers, ketones, nitriles, esters, and their halo or substituted analogs and the like.~~

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18. (Currently Amended) ~~[[A]]~~ The process as claimed in claim 8, further comprising ~~recrystallization of~~ recrystallizing desloratadine from a solvent system comprising a mixture of an alcohol and a hydrocarbon solvent.

19. (Currently Amended) ~~[[A]]~~ The process as claimed in claim 18 wherein alcohol is methanol and hydrocarbon solvent is cyclohexane.

20. (Currently Amended) ~~[[A]]~~ The process as claimed in claim 19, wherein the ratio of methanol:cyclohexane is 1:14 v/v.

21. (Currently Amended) ~~[[A]]~~ The process as claimed in claim 8 for preparation of substantially pure desloratadine as described in claim 1, 2 or 3.

22. (New) Desloratadine having an HPLC purity greater than 99.5% which does not show a peak corresponding to an impurity of formula 4 when tested according to an HPLC method performed using a Hypersil BDS C<sub>8</sub> column (15 cm x 4.6 mm, 5 µm particle size) with the following parameters:

Mobile phase: Buffer solution having a pH of about 3, methanol and acetonitrile in a volume ratio of 8:1:1.

Injection volume : 20µl

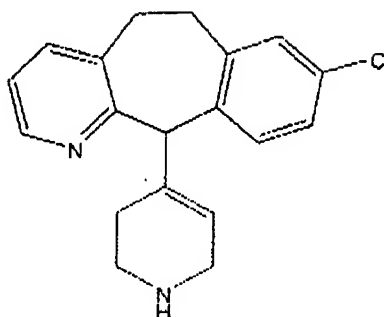
Flow rate : 1.5 ml/minute

Run time : 75 minutes

Discard limit : Set at less than 0.025% of total area[.]

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Formula 4.